

autumn had delayed the gathering of crops, especially of corn. The reported losses aggregated \$379,765, of which \$316,150 was in matured crops, while the value of property saved through the warnings was \$293,500. The following comment on this flood by Mr. W. E. Barron, meteorologist in charge of the Weather Bureau office at Cairo, Ill., is of interest:

This flood showed some quite remarkable features. In the first place, there was no flood in the Mississippi River above Cairo nor along the upper and middle stretches of the Ohio, while the Cumberland River broke all previous records, and the Tennessee from Florence, Ala., to near the mouth was the highest since 1897. Second, the rate of crest movement was unusually slow, Cincinnati to Shawneetown 6 days, Cincinnati and Chattanooga to Paducah 8 days and to Cairo 9 days. This is attributed to the vast body of water ponded in the Cumberland Valley, the crest at Eddyville, Ky., 68.5 feet, 12.5 feet above flood stage, occurring only 1 day before the crest at Paducah. The flood from the Cumberland undoubtedly added materially to the stage at Shawneetown, Ill. Backwater effects were also noted in the Mississippi at Cape Girardeau, Mo., 50 miles above the mouth of the Ohio, with a slow steady rise from December 30 to January 7 amounting to 3.2 feet, with no rise upstream.

Lower Mississippi River.—The Mississippi River reached the flood stage of 34 feet at New Madrid, Mo., on January 1, and the flood stage of 45 feet at Vicksburg, Miss., on January 16. Flood stage at Greenville, Miss., was not quite reached, and the river below Vicksburg was not in flood during this rise. However, relatively high stages prevailed throughout the month, with the second and greater flood in progress at the close of the month. The crest stage at Memphis, Tenn., was 37.7 feet, 2.7 feet above flood stage, on January 12, and approximately 35,000 acres of land in the Memphis district were overflowed. Losses were unusually large for a flood of this character, mainly from unpicker cotton, a large quantity of which had been left in the fields awaiting improved market conditions. The reported losses aggregated \$774,100, of which \$405,800 was in matured crops. The reported value of property saved through the warnings was \$275,000.

The Yazoo River was in flood throughout the month, with a crest of 30.4 feet, 5.4 feet above the flood stage, at Yazoo City, Miss., on January 21.

The December-January flood in the Tombigbee River.—This flood was also severe, except in the upper Tombigbee, with crests of 65.3 feet, 26.3 feet above flood stage, at Demopolis, Ala., on January 5, and 61.8 feet, 15.8 feet above flood stage, at Tuscaloosa, Ala., on the Black Warrior River, on December 26. Lowlands along the river and tributaries for a distance of more than 500 miles were inundated, the overflowed area ranging in width from one-half mile to as much as 7 miles. Reports as to losses were very incomplete. One corporation reported:

We lost nothing. The individual losses no doubt would be great. Ample warning was given to save loss of life and most of the property. The information given was correct.

Total reported losses were \$94,500, and the value of property saved through the warnings \$129,000. Eight persons were drowned in the vicinity of Columbus, Miss. The flood was a distinct benefit to many lumbermen, as it permitted the floating out from swamp lands of about 20,000,000 feet of timber, the early warnings affording ample time for preparations for the work.

THE GENERAL OHIO RIVER FLOOD

Pittsburgh, Pa., to Wheeling, W. Va.—Contrary to the usual procedure, this flood was a slow one, mainly on account of a series of moderately heavy rains instead of a heavy continuous rain of a day or two, and the rain

effect was materially augmented by the prevailing high temperature that melted the accumulated snow and ice, and even took the frost out of the ground.

The first warning was issued at Pittsburgh on January 21, and as often thereafter as changing conditions required. The crest at Pittsburgh was 29.7 feet, 4.7 feet above flood stage, at 5 a. m. January 23, and at Wheeling, W. Va., 41.7 feet, 5.7 feet above flood stage, at 7 p. m. January 23.

While there was the usual inconvenience and the expense attached thereto, actual losses were very small, probably not exceeding \$10,000 for the entire district.

Wheeling, W. Va., to Parkersburg, W. Va.—Conditions were much the same as above, and the usual warnings were issued in ample time. Losses, however, were somewhat heavier, although not very large for a great flood, only about \$125,000 having been reported. The crest stage at Parkersburg was 45.5 feet, 9.5 feet above flood stage, at 9 p. m. January 24. Traffic of all kinds was delayed, and there was much loss of time in factories and shops.

Kanawha River to Kentucky River.—In this, the Cincinnati, Ohio, district, the unusual feature of the flood was the uneven distribution of the rainfall and of the rises in the tributary streams. With the exception of the Licking River, the southern tributaries in West Virginia and eastern Kentucky were generally low. The usual experiences of a great Ohio River flood were repeated, and warnings, bulletins, etc., were issued frequently and given the widest possible distribution by telegraph, telephone, radio, and the press. The crest stages were from about 4 to 8 feet above the flood stages, Cincinnati reporting 59.1 feet, or 7.1 feet above flood stage.

Again the losses were very small, and very little farmland was overflowed. The Central Union Railway Depot was vacated for 7 days, and a great deal of merchandise removed from warehouses. Reported losses were only \$63,000, while the value of property saved through the warnings was given as \$600,000.

Mouth of Kentucky River to Hawesville, Ky.—In this district the heaviest rains fell in the immediate Ohio Valley between Louisville and Cloverport, Ky., and over the lower Kentucky River Basin. This local distribution caused relatively higher stages in the district, resulting finally in a "flat" crest that extended from Madison, Ind., almost to Cloverport. Another interesting feature was a flood in the lower Kentucky River, while the upper river was only at moderate stage. This Kentucky River flood caused some inconvenience, but no loss of consequence. Neither were the losses along the Ohio River very serious. A considerable acreage of bottom lands was flooded, but the total of the reported losses was only \$90,530, while the value of property saved through the warnings was given as \$144,000.

In the Evansville, Ind., district the flood was still at its height, and the river was once more rising rapidly over the Cairo district. Report of this will be made later.

Northern tributaries of the Ohio.—The northern tributaries of the Ohio River were generally in flood, although none was serious. Warnings were issued when needed, and losses were not great. Within the State of Ohio the reported losses were \$187,000, while the warnings, according to estimates received from business interests, were the means of saving property valued at \$1,162,500.

The floods in the Wabash and White Rivers of Indiana were of the same general character as those in the State of Ohio, and the resulting damage was comparatively

small, as the floods of September, 1926, had left no more crops to be damaged. Reported losses amounted to \$76,500, and \$37,500 will probably cover the value of property saved through the warnings.

The flood in the White River system of Arkansas continued at the end of the month, and report will be made later.

Floods in the Ouachita River of Arkansas and the Sulphur River of Texas were of minor importance and were well forecast.

| River and station | Flood stage | Above flood stages—dates | | Crest | |
|--|-------------|--------------------------|--------|-----------|------------|
| | | From— | To— | Stage | Date |
| ATLANTIC DRAINAGE | | | | | |
| Roanoke: Weldon, N. C.----- | Feet 30 | (1) | (2) | Feet 35.7 | Dec. 30 |
| Santee: Rimini, S. C.----- | 12 | 1 | 2 | 12.2 | Jan. 2 |
| EAST GULF DRAINAGE | | | | | |
| Coosa: | | | | | |
| Gadsden, Ala.----- | 22 | (1) | (2) | 23.9 | Dec. 28 |
| Lock No. 4, Lincoln, Ala.----- | 17 | Dec. 26 | Jan. 1 | 19.1 | Do. |
| Tombigbee: | | | | | |
| Aberdeen, Miss.----- | 33 | (1) | 2 | 39.2 | Dec. 27 |
| Lock No. 4, Demopolis, Ala.----- | 39 | (1) | 15 | 65.3 | Jan. 5 |
| Black Warrior: Lock No. 10, Tuscaloosa Ala.----- | 46 | (1) | (2) | 61.8 | Dec. 26 |
| Pearl: | | | | | |
| Edinburg, Miss.----- | 21 | (1) | 1 | 21.2 | 31 |
| Jackson, Miss.----- | 20 | (1) | 11 | 28.6 | Jan. 4-5 |
| West Pearl: | | | | | |
| Pearl River, La.----- | 13 | Jan. 1 | 6 | 14.4 | 2 |
| | | 15 | 19 | 13.2 | 17 |
| MISSISSIPPI DRAINAGE | | | | | |
| Allegheny: | | | | | |
| Parkers Landing, Pa.----- | 18 | 20 | 20 | 20.0 | 20 |
| Freeport, Pa.----- | 22 | 23 | 23 | 23.1 | 23 |
| Stony Creek: Johnstown, Pa.----- | 10 | 22 | 22 | 10.1 | 22 |
| Monongahela: | | | | | |
| Lock No. 7, Greensboro, Pa.----- | 30 | 21 | 22 | 31.4 | 21-22 |
| Lock No. 4, Pa.----- | 31 | 22 | 22 | 32.1 | 22 |
| Ohio: | | | | | |
| Pittsburgh, Pa.----- | 25 | 21 | 24 | 29.7 | 23 |
| Herr Island, Dam, Pa.----- | 22 | | | 28.4 | 23 |
| Dam No. 2, Coraopolis, Pa.----- | 26 | 23 | 23 | 28.5 | 23 |
| Dam No. 6, Beaver, Pa.----- | 30 | 22 | 24 | 37.5 | 23 |
| Dam No. 12, Wheeling, W. Va.----- | 36 | 23 | 24 | 39.3 | 23 |
| Dam No. 13, Wheeling, W. Va.----- | 43 | 23 | 24 | 43.5 | 23 |
| St. Marys, W. Va.----- | 38 | 23 | 25 | 41.7 | 24 |
| Marietta, Ohio.----- | 33 | 22 | 27 | 44.0 | 24 |
| Parkersburg, W. Va.----- | 36 | 22 | 27 | 45.5 | 24 |
| Dam No. 19, Tallman, W. Va.----- | 39 | 22 | 26 | 46.4 | 24 |
| Dam No. 20, Belleville, W. Va.----- | 45 | 24 | 25 | 46.7 | 25 |
| Dam No. 22, Ravenswood, W. Va.----- | 42 | 23 | 27 | 50.1 | 25 |
| Point Pleasant, W. Va.----- | 40 | 23 | 28 | 50.0 | 26 |
| Dam No. 26, Hogsett, W. Va.----- | 50 | 24 | 27 | 53.4 | 26 |
| Dam No. 28, Huntington, W. Va.----- | 50 | 25 | 27 | 52.65 | 26 |
| Dam No. 29, Normal, Ky.----- | 50 | 24 | 28 | 56.9 | 26 |
| Dam No. 30, Greenup, Ky.----- | 52 | 24 | 28 | 56.5 | 26 |
| Portsmouth, Ohio.----- | 50 | 24 | 29 | 57.2 | 26 |
| Dam No. 32, Vanceburg, Ky.----- | 53 | 25 | 27 | 54.4 | 26 |
| Dam No. 33, Maysville, Ky.----- | 48 | 23 | 29 | 54.7 | 26 |
| Dam No. 35, Oneonta, Ky.----- | 45 | 24 | 30 | 51.9 | 27 |
| Dam No. 36, Cold Spring, Ky.----- | 50 | 24 | 30 | 57.7 | 27 |
| Cincinnati, Ohio.----- | 52 | 24 | 30 | 59.1 | 27 |
| Dam No. 37, Fernbank, Ohio.----- | 54 | 26 | 28 | 54.6 | 27 |
| Dam No. 38, Grant, Ky.----- | 45 | 23 | 31 | 53.8 | 27 |
| Dam No. 39, Florence, Ind.----- | 45 | 24 | 30 | 49.5 | 27 |
| Madison, Ind.----- | 46 | 24 | 31 | 50.5 | 27 |
| Louisville, Ky.----- | 28 | 24 | (3) | 35.6 | 27 |
| Dam No. 41, Ky.----- | 51 | 24 | (3) | 58.7 | 27 |
| Dam No. 44, Leavenworth, Ind.----- | 48 | (1) | 2 | 50.8 | Dec. 30-31 |
| | | 23 | (2) | 60.1 | Jan. 27 |
| Cloverport, Ky.----- | 40 | (1) | 2 | 42.8 | Dec. 31 |
| | | 23 | (2) | 49.1 | Jan. 28 |
| Evansville, Ind.----- | 35 | (1) | 7 | 41.4 | 2 |
| | | 22 | (2) | 44.8 | 20-30 |
| Dam No. 48, Cypress, Ind.----- | 35 | (1) | 6 | 40.1 | 31 |
| | | 23 | (2) | 44.7 | 31 |
| Mount Vernon, Ind.----- | 35 | (1) | 7 | 39.9 | 3 |
| | | 23 | (2) | 45.4 | 31 |
| Shawneetown, Ill.----- | 35 | (1) | 9 | 40.4 | 4 |
| | | 23 | (2) | 40.4 | 4 |
| Paducah, Ky.----- | 43 | 1 | 11 | 46.8 | 6 |
| Cairo, Ill.----- | 45 | 1 | 12 | 48.9 | 7 |
| Beaver: Beaver Falls, Pa.----- | 11 | 22 | 22 | 11.4 | 22 |
| Shenango: Sharon, Pa.----- | 9 | 21 | 23 | 10.5 | 22 |
| Muskingum: | | | | | |
| Zanesville, Ohio.----- | 25 | 23 | 24 | 26.0 | 23 |
| McConnesville, Ohio.----- | 22 | 21 | 25 | 25.4 | 23 |
| Beverly, Ohio.----- | 25 | 23 | 24 | 25.6 | 24 |
| Marietta, Ohio.----- | 28 | 22 | 27 | 37.3 | 24 |

¹ Continued from last month.

² Below flood stage at 8 a. m., Jan. 1, 1927.

³ Erroneously carried as 66.3 in December, 1926, Review.

⁴ Ice gorge.

⁵ Continued at end of month.

⁶ Crest occurred after end of month.

| River and station | Flood stage | Above flood stages—dates | | Crest | |
|---------------------------------------|-------------|--------------------------|-----|-------|------------|
| | | From— | To— | Stage | Date |
| MISSISSIPPI DRAINAGE—continued | | | | | |
| Tuscarawas: | Feet | | | Feet | |
| Gnadenbudden, Ohio..... | 9 | 20 | 26 | 14.8 | Jan. 21-22 |
| Coshocton, Ohio..... | 8 | 20 | 26 | 16.2 | 23 |
| Walhonding: Walhonding, Ohio..... | 8 | 20 | 23 | 13.0 | 20 |
| Hocking: Athens, Ohio.... | 17 | 21 | 24 | 18.4 | 22 |
| Scioto: | | | | | |
| Larue, Ohio..... | 11 | 21 | 24 | 12.2 | 22-23 |
| | | 30 | 31 | 12.7 | 30 |
| Prospect, Ohio..... | 10 | 22 | 22 | 10.0 | 22 |
| Bellpoint, Ohio..... | 9 | 20 | 22 | 10.5 | 20 |
| Circleville, Ohio..... | 10 | 20 | 24 | 14.5 | 21 |
| Chillicothe, Ohio..... | 16 | 21 | 25 | 19.6 | 22 |
| Olentangy: Delaware, Ohio..... | 9 | 22 | 22 | 9.3 | 22 |
| Little Miami: | | | | | |
| Kings Mills, Ohio..... | 17 | 19 | 19 | 17.2 | 19 |
| | | 22 | 22 | 17.4 | 22 |
| Licking: | | | | | |
| Farmers, Ky..... | 25 | 22 | 22 | 29.0 | 22 |
| Falmouth, Ky..... | 28 | 21 | 25 | 38.0 | 23 |
| Licking (S. Fork): Cynthiana, Ky..... | 20 | 22 | 22 | 21.2 | 22 |
| Kentucky: Frankfort, Ky..... | 31 | 22 | 23 | 32.6 | 22 |
| Green: | | | | | |
| Munfordville, Ky..... | 28 | 22 | 26 | 35.8 | 24 |
| Lock No. 6, Brownsville, Ky..... | 30 | (1) | (2) | 42.5 | Dec. 26 |
| | | 21 | 27 | 43.9 | Jan. 24 |
| Lock No. 4, Woodbury, Ky..... | 33 | (1) | 4 | 49.3 | Dec. 27 |
| | | 21 | 31 | 46.8 | Jan. 25 |
| Lock No. 2, Rumsey, Ky.... | 34 | (1) | 12 | 43.1 | 4-5 |
| | | 22 | (2) | 43.1 | 31 |
| Barren: Bowling Green, Ky..... | 20 | 22 | 26 | 26.5 | 24 |
| Wabash: | | | | | |
| Lafayette, Ind..... | 11 | 24 | (2) | | |
| Mt. Carmel, Ill..... | 16 | 23 | (2) | | |
| Tippecanoe: | | | | | |
| Norway, Ind..... | 6 | 7 | 7 | 6.0 | 6 |
| | | 30 | (2) | | |
| White: Decker, Ind..... | 18 | 22 | (2) | 22.3 | 28 |
| White, East Fork: | | | | | |
| Seymour, Ind..... | 10 | 20 | 24 | 12.4 | 21 |
| Williams, Ind..... | 10 | 23 | 29 | 15.5 | 26 |
| Shoals, Ind..... | 20 | 23 | 30 | 26.9 | 27 |
| White, West Fork: | | | | | |
| Elliston, Ind..... | 19 | 21 | 25 | 20.1 | 22 |
| Edwardsport, Ind..... | 15 | 20 | 28 | 18.0 | 23 |
| Cumberland: | | | | | |
| Celina, Tenn..... | 45 | (1) | 2 | 57.2 | Dec. 29 |
| Carthage, Tenn..... | 40 | (1) | 4 | 59.1 | Dec. 30 |
| Nashville, Tenn..... | 40 | (1) | 7 | 56.2 | Jan. 2 |
| Clarksville, Tenn..... | 46 | (1) | 9 | 60.0 | Jan. 2 |
| Lock F, Eddyville, Ky..... | 57 | (1) | 12 | 68.5 | 5 |
| Tennessee: | | | | | |
| Chattanooga, Tenn..... | 33 | (1) | 1 | 38.4 | Dec. 29-30 |
| Bridgeport, Ala..... | 24 | (1) | 1 | 28.3 | Dec. 30 |
| Guntersville, Ala..... | 31 | (1) | 4 | 38.3 | Dec. 30 |
| Decatur, Ala..... | 21 | (1) | 4 | 23.2 | Jan. 1 |
| Florence, Ala..... | 18 | (1) | 6 | 26.6 | Dec. 29 |
| Riverton, Ala..... | 33 | (1) | 8 | 50.0 | Dec. 30-31 |
| Savannah, Tenn..... | 40 | (1) | 8 | 51.3 | Jan. 2 |
| Johnsonville, Tenn..... | 31 | (1) | 11 | 41.0 | Jan. 3-4 |
| Elk: Fayetteville, Tenn..... | 14 | (1) | 1 | 25.8 | Dec. 28 |
| Mississippi: | | | | | |
| New Madrid, Mo..... | 34 | 1 | 13 | 37.5 | Jan. 8-9 |
| Memphis, Tenn..... | 35 | 5 | 16 | 37.7 | 12 |
| Helena, Ark..... | 44 | 8 | 18 | 46.3 | 15 |
| Arkansas City, Ark..... | 48 | 14 | 20 | 48.7 | 18 |
| Vicksburg, Miss..... | 45 | 16 | 25 | 46.5 | 21 |
| Illinois: Peru, Ill..... | 14 | 14 | 15 | 14.2 | 14 |
| Meramec: Pacific, Mo..... | 11 | 15 | 16 | 12.0 | 16 |
| Arkansas: Yancopin, Ark..... | 29 | (1) | (2) | 35.6 | 18-19 |
| Petit Jean: Danville, Ark..... | 20 | 22 | 29 | 26.1 | 24 |
| White: | | | | | |
| Calico Rock, Ark..... | 18 | 22 | 28 | 27.0 | 24 |
| Batesville, Ark..... | 23 | 22 | 29 | 33.3 | 24 |
| Newport, Ark..... | 26 | 24 | (2) | 32.6 | 26 |
| Georgetown, Ark..... | 22 | 25 | (2) | 28.9 | 30 |
| Clarendon, Ark..... | 30 | 30 | (2) | | |
| Black: | | | | | |
| Poplar Bluff, Mo..... | 14 | 22 | 25 | 15.8 | 23 |
| Corning, Ark..... | 11 | (1) | 5 | 11.9 | Dec. 25-27 |
| | | 20 | (2) | 15.0 | Jan. 26-28 |
| Black Rock, Ark..... | 14 | 21 | (2) | 26.3 | 23 |
| Cache: | | | | | |
| Patterson, Ark..... | 9 | (1) | 15 | 10.1 | 1-6 |
| | | 28 | (2) | | |
| Yazoo: | | | | | |
| Greenwood, Miss..... | 36 | (1) | 10 | 38.4 | 2-3 |
| Yazoo City, Miss..... | 25 | 9 | (2) | 30.4 | 21 |
| Tallahatchie: Swan Lake, Miss..... | 25 | (1) | (2) | 31.1 | 7.9 |
| Sulphur: | | | | | |
| Ringo Crossing, Tex..... | 20 | 23 | 28 | 22.9 | 25 |
| Finley, Tex..... | 24 | (1) | 2 | 29.0 | Dec. 26 |
| | | 30 | (2) | | |
| Ouachita: Camden, Ark..... | 30 | (1) | 2 | 38.5 | Dec. 25 |
| WEST GULF DRAINAGE | | | | | |
| Trinity: Trinidad, Tex..... | 28 | (1) | 1 | 30.9 | Dec. 29-30 |

¹ Continued from last month.

² Below flood stage at 8 a. m., Jan. 1, 1927.

³ Continued at end of month.

⁴ Estimated.